

PROCEEDINGS
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DIAGNOSES OF NEW SPECIES OF FISHES FOUND IN
BERING SEA.

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In 1895 the junior author served as naturalist on the U. S. Fish Commission steamer *Albatross* and obtained many fishes at various depths. Among them were 14 species apparently hitherto undescribed. Diagnoses of these are here given by permission of Captain John J. Brice, U. S. Commissioner of Fish and Fisheries, and will hereafter be described at length and illustrated.

RAIIDÆ.

Raia rosispinis.

Snout moderately produced, with a soft, moderately narrow rostral cartilage and a blunt tip. Interorbital space nearly plane. Snout with a number of plates having stellate bases about middle, and many smaller asperities, leaving only the borders of the pectorals and ventrals naked. Larger spines with stellate bases are interspersed between the disk and the pectoral rays. A row of about 26 thorn-like spines, with radiating ridges, extends from the interhumeral area to the dorsal fins; two spines on each shoulder. One spine above antocular region, another above postocular region, and another behind it about half the distance.

Raia obtusa.

Snout not at all produced, but very bluntly rounded. Interorbital space narrow. Mouth small, rectilinear. Minute distant prickles on the snout, the anterior portion of disk and interorbital area, as well as in a broad median band extending on tail to dorsal and commencing at the interhumeral area; a row of scarcely enlarged acute spines above the eye; an uninterrupted row of unguiform spines with smooth bases extending from the interhumeral area to dorsal fin; two similar spines on each shoulder.

Raia interrupta.

Snout moderately produced, with a soft very attenuated rostral cartilage and a blunt tip. Interorbital space concave. Mouth small; the width equal to half preoral area. Entire back covered with very small embedded spines, extending nearly uniformly over the disk and snout, leaving only the tip of the latter naked; a row of compressed acutely curved, smooth spines along middle of back, extending from the interhumeral region to dorsal, but interrupted along the posterior half of disk, where the spines are absent or obsolete; about four spines are in the anterior portion and the series recommences on a line with the emargination of the disk; a single spine on each shoulder and occasionally a rudimentary second; no specialized supra-orbital spines.

NOTACANTHIDÆ.

Macdonaldia alta.

D., 32; A. (31 to end of dorsal) 52 spines, 125 rays.

Body comparatively high; greatest height equal to $3\frac{2}{3}$ the distance between vent and tip of snout. Pectoral fin with its root twice as far from upper cleft of branchial aperture as from the lateral line, and much nearer to the posterior end of operculum than to lateral line.

Bering Sea, $\frac{1}{2}$ Lat. N. $54^{\circ} 54'$, Long. W. $168^{\circ} 59'$ (station 3604, Aug. 13, 1895; 1401 fathoms).

Macdonaldia longa.

D., 33; A. (26 to opposite end of dorsal) 55 spines, 111 rays.

Body comparatively slender, with the greatest height about one-fifth distance between vent and tip of snout. Pectoral fin with its root three times as far from upper cleft of branchial aperture as from lateral line, and very much nearer lateral line than end of operculum.

Bering Sea (station 3607, 1895; 900 fathoms).

ALEPOCEPHALIDÆ.

Ericara, new genus.

Alepocephalids with small, perfectly smooth, imbricated cycloid scales, wide cranium, projecting snout, deeply cleft mouth, uniserial and acrodont teeth on vomer and anterior portion of palatines, and dorsal and anal of normal extent and opposite each other.

Ericara salmonea.

Dorsal, 17; anal, 24. Maxillary extending to vertical of posterior border of orbit. Head large: length, $8\frac{1}{2}$; depth, 5; width, $4\frac{1}{2}$.

Bering Sea, S. W. of Pribilof Islands (station 3603, 1895; 1771 fathoms).

LYCODIDÆ.

Lycodes digitatus.

Body moderately elongate, its greatest height being between $\frac{1}{3}$ and $\frac{1}{2}$ of the total length; covered with small, entirely separated embedded scales,

which become nearer anteriorly and extend in advance of the dorsal fin as well as on the vertical fins. No specialized area of smaller scales behind base of pectorals. Pectorals scaleless. Head moderate, $\frac{1}{3}$ in length, entirely naked.

Color (in alcohol) brownish yellow suffused with reddish in front, variegated, darker anteriorly, with four dark longitudinal bands most distinct about middle of body, fading out backwards. Fins light and without dark margins. Head dark above and laterally, light below. Dorsal, 101; ventral, 81; pectoral, 18.

Bering Sea, Lat. N. $56^{\circ} 14'$, Long. W. $164^{\circ} 8'$ (station 3541; 49 fathoms).

Lycodes concolor.

Body rather elongated, its greatest height being less than $\frac{1}{4}$ total length; covered with very small, entirely separated embedded scales which become more distant anteriorly and extend in advance of the dorsal fin and scapular region, as well as on the vertical fins; pectorals with scattered scales on external and internal surfaces near base. A specialized area of smaller scales behind base of pectoral and a naked area around upper axilla of pectorals. Head moderate, a fifth of total length, entirely naked. Color nearly uniform, only relieved by the apparently lighter hue of the scales and the somewhat darker margins of the fins. Dorsal, 118; ventral, 98; pectoral, 21.

Bering Sea, Lat. N. $55^{\circ} 19'$, Long. W. $168^{\circ} 11'$ (station 3608, Aug. 12, 1895; 276 fathoms).

MACRURIDÆ.

Macrurus lepturus.

Type 22 inches long. D., 14-122. A., 116. P., 20. V., 8.

Scales deciduous and moderate, oblong or oval with reduced exposed surfaces; those on the back or above the lateral line have a few (3-5) ridges beset with spines, but those below are mostly unarmed. Head one-sixth of entire length, regularly conical. Snout moderately extended. Median tubercle very projecting; lateral well developed, connected by well defined ridge; infraorbital vertical, with the ridge linear and near the orbit. Teeth cardiform in both jaws; the lower teeth beset the outer slope of the jaw.

Bering Sea, S. W. of Pribilof Islands (station 3604; 1401 fathoms).

Macrurus dorsalis.

Type length, 26 inches. D., 15-120. A., 122. P., 21. V., 9.

Scales deciduous and rather small, diversiform, with small exposed surfaces; near the dorsal they have about five radiating spinigerous ridges, but below the lateral line these ridges are fewer and unarmed. Head a little more than one-sixth of the length. Snout short, projecting a considerable length beyond the eye and a little beyond the supramaxillary. Median tubercle very prominent; connecting ridge is well defined; infraorbital nearly vertical, with the ridge linear and near the orbit. Teeth cardiform.

Bering Sea, S. W. of Pribilof Islands (station 3604; 1401 fathoms).

Macrurus firmisquamis.

Type 31 inches long. D., 12-126. A., 105. P., 20. V., 8.

Scales firmly affixed, oblong or rather short, and with considerable exposed surfaces, which have subequal radiating ridges beset with numerous acute spinelets; the ridges vary from 3 to 8 in number. Head regularly convex in profile, a fifth of the entire length. Snout longer than the diameter of the eye. Rostral tubercles obsolete and infraorbital ridge rounded. Teeth biserial or triserial. This species is distinguishable from all its American congeners, at least, by the very firm scales.

Bering Sea, S. W. of Pribilof Islands, 1895.

Macrurus (Nematonurus) magnus.

Type 43 inches long. D., 9-128. A., 121. P., 15. V., 6.

Scales moderately large, readily deciduous, decidedly oblong or long, with a small exposed surface which is beset with five to seven radiating unarmed ridges. Head regularly conical, less than one-fifth of the length. Snout rather long; projects half its length beyond the mandible. Tubercles feebly developed, plain and continuous from 3 parallel ridges; infraorbital flat, with the crest rather nearer the orbit than its lower margin; its entire surface scaly. Teeth in the upper row biserial or triserial; in lower jaw imperfectly biserial or uniserial.

Bering Sea, S. W. of Pribilof Islands.

Macrurus (Nematonurus) suborbitalis.

Type 20 inches long. D., 12-85. A., 102. P., 19. V., 11.

Scales closely adherent and rather large, mostly short and roundish, with considerable exposed surfaces, having radiating ridges beset with weak spines. Head a little more than one-sixth of the entire length. Snout projects little. Median and lateral tubercles are faintly developed; infraorbital narrow, divided into two well marked areas—an upper wider, distinguished by the glassy tubercular scales, and the narrow lower, almost skinny and scaleless; the ridge independently, is little marked. Teeth biserial in the upper jaw, robust in the outer row, very weak in the inner; uniserial in lower jaw and scarcely incurved.

Bering Sea, S. W. of Pribilof Islands (station 3603; 1771 fathoms).

PLEURONECTIDÆ.

Hippoglossoides robustus.

Body rather high, its greatest height nearly equaling half the length from the snout to base of caudal. Profile decurved above the eye. Body thick. Scales on head separate and rarely touch each other. Lateral line more arched than in allied species. Teeth of the single row mostly separated from each other by intervals equal to width of teeth, curved inward, and uniform on the sides; toward front four or five enlarged teeth, preceded by two smaller, leaving the middle toothless. In the lower jaw of nearly uniform size and inclining backwards.

Bering Sea, Lat. N. 56° 14', Long. W. 164° 8' (station 3541; 49 fathoms).